APRIL/MAY 2025

23UFCS14/23UFSC14 — PROBLEM SOLVING TECHNIQUES (FC)

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. Write two characteristics commonly associated with computers.

2. What is translator?

3. What are the benefits of using an algorithm?

4. What is a pseudo code?

5. Write any two applications of selection structure.

6. Compare and contrast two key differences between selection and repetition structures in programming.

7. Define an array.

8. What is a string?

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9. Define file.

10. What is the objective of using functions?

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SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) Write short notes on secondary storage devices.

Or

(b) Discuss the differences between assembler and compiler.

12. (a) Explain the different phases in program development cycle.

Or

(b) Discuss the concepts of modular programming.

13. (a) Explain relational operators with an example.

Or

(b) What is the necessity of selection structure? Explain.

14. (a) How do you process string as a array?

Or

(b) Discuss the memory representation of numeric values.

15. (a) Discuss the different types of DFD.

Or

(b) What is recursion? Explain with an example code.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the various types of computers.

17. What is flowchart? Discuss the symbols used in the flowchart.

18. Briefly explain the various types of loops in repetition structure.

19. Explain the different types of arrays with examples.

20. Explain the basic functions associated with sequential file.

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